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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,770

03/21/2006

Yasuo Cho

4105-73

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23117

7590

05/09/2008

NIXON & VANDERHYE, PC  
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EXAMINER

SMITH, NICHOLAS A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

05/09/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,770	<b>Applicant(s)</b> CHO ET AL.	
	<b>Examiner</b> NICHOLAS A. SMITH	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 21-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/21/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 21-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 13 February 2008.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10, 13-18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-501468 A (of which US 6,344,150 B1, Eason et al., will be referred to) as submitted on Applicant's Information Disclosure Statement on 21 February 2006.

4. In regards to claim(s) 1-12, Eason et al. discloses a method of producing a ferroelectric thin-film wherein an etching process involves etching one surface of a ferroelectric, single crystal wafer of the claimed type at a greater rate than another surface wherein polarization conditions are oriented in one direction and applying a predetermined DC, pulsed voltage as claimed between the surfaces in an etching solution that contains HF, is heated, filtered and stirred, and can etch as little as less

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than a micron (col. 3, line 39 to col. 4, line 33; col. 5, line 58 to col. 6, line 18; claims 1-13).

5. In regards to claim(s) 13-18 and 20, Eason et al. discloses an electrode forming process, a substrate connecting process, including same and mismatched substrates using an adhesive layer directly connected by anodic bonding, and a polishing process as claimed (col. 6, lines 5-10; col. 6, line 59 to col. 8, line 2). It is noted that Eason et al. has a smoothing process of stacking the devices after polishing by matching the structure in the bonded stack.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eason et al. in view of MacDonald et al. (US 6,969,457 B2).

8. Eason et al. does not explicitly disclose stirring or filtering the etching solution.

9. MacDonald et al. discloses etching a substrate material and concurrently stirring and filtering the electrolyte solution (col. 5, lines 1-13; col. 7, lines 34-47). It would have been obvious to one of ordinary skill in the art to modify Eason et al.'s etching method with MacDonald et al.'s method of stirring and filtering in order to remove precipitates and to improving mixing and agitation (MacDonald et al., col. 5, lines 1-13; col. 7, lines 34-47).

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eason et al. in view of English translation of JP2000-196410 A (JP'410)

11. In regards to claim(s) 19, Eason et al. does not explicitly disclose a method wherein the etching method includes a glass film between electrode and the substrate.

12. JP'410 discloses a  $\text{LiNbO}_3$  thin film in the same field of endeavor as Eason et al. JP'410 discloses wherein a glass film in between the electrode and the substrate in a wave guide material. (JP'410, Examples 1-7). It would have been obvious to one of ordinary skill in the art to modify Eason et al.'s method with JP'410 preparation in order to form a highly efficient surface wave guide device (JP'410, paragraph [0006]).

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICHOLAS A. SMITH whose telephone number is (571)272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on (571)-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/  
Primary Examiner, Art Unit 1795

NAS